GARVAN EXPLAINS PATENT STATEMENT

Declares German Lawyers Influenced U. S. to Demand Return.

By the Associated Press.

NEW YORK, July 8.—Francis P. Garvan, former alien property custodian, now head of the Chemical Foundation, whose German patents, purchased from the alien propery custodian, the government now is demanding back, has issued a statement giving his reasons for the charge he made that the action had been taken at the instigation of the German government and the German dye trust "without notice to the American organic chemistry industry or to the Chemical Foundation."

"Within about three weeks," said the statement, "a commission of three German lawyers, Rudolph Oppenheim, Hans Wagner and Karl Holderman, representing the German, Gartel, which in turn consists of all the organic chemical industry of Germany, arrived in this country to perfect plans for the recovery by Germany of their control in Ameica of the organic chemical industry.

"On Saturday, June 24, a conference was held at the office of O'Gorman, Battle, Vandiver & Levy, 37 Wall street, at which were present Mr. Vandiver and Mr. Levy, representing Herman A. Metz, the leading German importer, and several other lawyers representing the German embassy and other German interests. It was there decided that a direct action to upset the sale would be inexpedient, but that the most promising procedure would be to attempt to induce the United States government to bring the action and to offer to the government all possible German assistance. Accordingly, a committee was appointed consisting of Messrs. Oppenheim and Wagner, Vandiver and Levy to go to Washington and consult with the Department of Justice.

"On Tuesday, June 27, this committee visited Attorney General's office and there placed before his assistants the German proposition and offered German assistance. Prio to that time neither the Chemical Foundation nor any one in any way representing them, nor any one representing any part of the American organic chemical industry had been asked any questions in reference to the sale, and sbusequent to the visit of the German representatives no request or opportunity was given to any American interests to answer the German representations before the announcement of the intended demand was made."

Answering another question as to what other sale in reference to patents the foundation case would become a governing precedent, he said:

Sees Precedent Upset.

"First, the sale of all wireless patents and plans to the United States government 'for the nominal sum of $140,000.' Germany had obtained the domination in this country through a patent system similar to the chemical patent system and to free the country from that control they were all sold to the government for what, of course, is an inadequate price if you consider the value to Germany of the control of the wireless news of the world.

"Second, some 5,700 German patents were selected by the Army and Navy as having been taken out by the Germans to control our freedom in waging war. These patents cover gunsights and countless other appliances and devices either used by our Army and Navy or which might be used in the future. Many of them had been infringed upon by the Army and Navy in the winning of the war. The alien property custodian turned over to the United States all the German rights and interests as between this government and German interests to the Navy for the nominal sum of $100,000. This transaction will also have to be upset."

The Week

Epitome of Events Up to July 8, 1922.

FOREIGN.

Irish rebels lose morale as more strongholds fall. More insurgents taken at Dublin, now holding only 700 rebels. Mrs. Thomas Cheney, Mexican-born wife of an American employed by an American company operating in the Tampico oil region, killed by Mexican bandits June 29, when she recognized their leader, according to report to State Department from Consul Shaw. De Valera's hotel target of shells in Dublin battle. Nearly 4,000 lepers given treatment at Manila. Hotel in flames as free-staters surround rebels in Dublin. Britain proposes four alliances to disarm world. Ten buildings afire as national army bombards rebels at Dublin. De Valera believed to have fled Dublin. A. Bruce Bielaski ordered arrested in Mexico for "self-abduction," is report. Rebels claim big gains in fighting in south Ireland.

NATIONAL.

Public comes first, President Harding warns coal conferees who meet to end coal strike. Rail strike starts throughout nation as shop craftmen obey order to quit. Big merger of automobile makers consummated at Dayton. Operators and mining men fail to end coal strike. Rail traffic continues unchecked by strike. President and Mrs. Harding witness evolutions on Gettysburg field. Seven killed and seventy-five hurt as Camden-Atlantic City night express on the Philadelphia and Reading railway leaves rails at curve. James D. Bailey, self-styled member of Congress, who offered to sell rural letter carriers automobiles for $50 each, is arrested at Winston-Salem, N. C. July 4 celebrated throughout the nation. President Harding joins in 100th anniversary of founding of his home town, Marion, Ohio, and visits fair grounds. One hundred and fifty persons overcome as fire breaks out in New York subway. Tariff cloture move defeated, 45-35 vote, in Senate.

DISTRICT OF COLUMBIA.

Approximately 2,000 railway shopmen employed in Washington terminal and other railroad yards in and near the District walk out on strike. Senator Phipps announces that District fiscal probe will open next week. Active steps being taken for the presentation of the viewpoint of the taxpayers in the District in the investigation of the fiscal relations between the federal and District governments. Maj. A. D. Newman dies as result of injuries sustained in polo game in Potomac Park. Frank Sartwell, reporter, is injured in automobile accident near Frederick, Md. Wilkins-Rogers Arlington Mills, Potomac and K streets, destroyed by fire. Postal station No. 78, at 100 North Carolina avenue southeast, looted of $78. National Capital celebrates July 4 in quiet way with many neighborhood exercises, rain preventing fireworks displays at night. L. C. Williamson, noted Mason, dies. Senator Sterling, chairman of Senate civil service committee, believes reclassification bill for government workers will become law during present session of Congress. Blame in Knickerbocker Theater tragedy argued in court. Tax rate for the ensuing year will be 1.30 on each $100 of assessed value, based on a full value assessment, the Commissioners announce. Bathing in Rock creek is halted by office of public buildings and grounds. George Dant, jr., six years old, given explosive as "candy" by man. Treasury backs District fiscal claim.

BY RADIO TODAY

Complete Programs of Radio Broadcasting Stations.

NAA—Naval Radio Station, Radio, Va.

8:45 to 9 a.m.—Live stock receipts; live stock markets.
10 a.m.—Weather forecast for New England, New York, Pennsylvania, New Jersey, Maryland, the District of Columbia, North and South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee, Kentucky, West Virginia and Ohio on 2,950 meters.
10:30 a.m.—Meteorological report on 5,950 meters.
11:15 to 11:20 a.m.—Hog flash—Chicago and St. Louis.
11:20 to 11:40 a.m.—Fruit and vegetable shipments.
Noon—Time signal; weather report and ship orders on 2,650 meters.
1:40 to 2:25 p.m.—Fruit and vegetable markets.
2:25 to 2:55 p.m.—Crop reports and special market news.
3:45 to 4 p.m.—Closing live stock markets.
4 to 4:15 p.m.—Hay and feed markets.
5 p.m.—Weather report.
5:30 to 6 p.m.—Daily marketgram.
10 p.m.—Time signal; weather report; ship orders; 2,650 meters.
10:30 p.m.—Naval press news on 2,650 meters.
Except where noted, sending is CW 5,950 meters.

WYX—Post Office Department.

10 a.m.—Weather report for the District of Columbia, Pennsylvania, Ohio, Maryland, Virginia and West Virginia.
10:30 a.m.—Marketgram (fruit and vegetables) on 1,100 meters.
12:30, 2:15 and 3:30 p.m.—C. W. marketgram telegrams on 1,980 meters.
5 p.m.—Wholesale dairy report on 1,160 meters by radiophone.
7:30 and 8 p.m.—Market report on 1,160 meters by radiophone.
9:50 p.m.—Weather report.

WPM—Thomas J. Williams, Inc. (360 Meters).

12:30 p.m.—News items; reports on stolen automobiles.

WVP—United States Signal Corps, Bedloes Island, N. Y. (1,450 Meters—Eastern Daylight-Saving Time—Deduct One Hour).

8:50 p.m.—Instruction in radio.
9 p.m.—Concert.

WGI—Amrad, Medford Hillside, Mass. (360 Meters—Eastern Daylight-Saving Time—Deduct One Hour).

2:55 p.m.—Music, current events.
3:30 p.m.—Music and talks as announced by radiophone.
7:30 p.m.—Base ball scores; late news flashes.
8:00—"Fuel for Home Use," Raymond U. Fitts of the Engineering Faculty, Tufts College.
8:15—The Hooper Tots, Doris and Chester, "Child Players," assisted by Helen Roche, pianist. Open number, "Hello, Hello!" Hooper Tots; "Angel Child," Hooper Tots; reading, "The Wind," Chester Hooper; "Three O'Clock in the Morning," Hooper Tots. Popular airs on Ukelele, Hooper Tots; reading, "O'Grady's Goat," Chester Hooper; "Sunny Tennessee," Hooper Tots.
8:30—Concorde Male Quartet, W. H. Smith, first tenor; V. W. Monroe, second tenor; G. R. Young, baritone; N. M. Miller, bass. "Afton Water" (arr. Barnard); "Cotton Dolly" (Geibel); "On the Sea" (Buck); "Drink to Me Only With Thine Eyes" (arr. Smith); "Reveries" (Storch); "Perfect Day" (Bond).
8:50—Edward Askins will sing his new ballad waltz song entitled, "You'll Be More Than a Dream Girl to Me."
8:55—Albert C. Maguire, tenor, accompanied by Edward McQuire, pianist, "Where My Caravan Has Rested" (Lohr); "I'll Forget You"; "The World Is Waiting for the Sunrise" (Suty).

KDKA—Westinghouse, East Pittsburgh (360 Meters)—Eastern Standard Time).

9 to 9:15 a.m.—Music.
11:30 a.m. to noon—Music.
2 p.m.—Popular concert by the Melody Juniors of Pittsburgh.
6 p.m.—Popular concert.
7 p.m.—"Activities at Mayview." Mrs. Enoch Rauh, department of charities, city of Pittsburgh, Pa.
8 p.m.—Elizabeth Reese Lloyd, soprano, of Ben Avon M. E. Church (R. R. Reese Studio); Mary Reese Wilson, contralto, Second Presbyterian Church, Wilkinsburg (R. R. Reese tSudio); R. R. Reese, baritone, teacher of singing; Jean Wessner, cellist, and W. A. Reger, accompanist, and organist at Ben Avon M. E. Church.
Program—Soprano solos, "Hear Ye Israel" ("Elijah," Mendelssohn), "Song of the Soul" (Briel), "Waltz Song" ("Romeo and Juliet," Gounod); contralto solos, "If I Were a Rose" (Hessleberg), "Sort of Miss You" (Penn), "Barbara Fritchie" (Sloman); baritone solos, "Love's Garden of Roses" (Wood), "Love and Life" (L. M. Genet), "It Is Enough" ("Elijah," Mendelssohn); piano, selected; duets, "Roses of Picardy" (Hayden Wood), "Passage Bird's Farewell," "Hildach"; trio, "Hear Our Prayer" (Abbott), "The Mariners" (Handregger); cello solo, "Kolindre" (Bruch).

KYW—Westinghouse, Chicago (360 Meters—Central Daylight-Saving Time—Same as Eastern Standard Time).

9:25 a.m.—Opening market quotations, Chicago Board of Trade.
10 a.m.—Market quotations at one-half-hour intervals until 1 p.m.
1:20 p.m.—Closing market quotations.
2.15 p.m.—News and market report.
3 p.m.—American and National League base ball team line-ups; progress of games every half hour thereafter until their close.
4.15 p.m.—News; market and stock reports.
6:30 p.m.—News; final market and financial reports; base ball reports.
7:00 p.m.—"Uncle Wiggily's Bedtime Stories," by Howard R. Garis, the author of "Uncle Wiggily Stories."
7:45 p.m.—"Fashion Talks" by an enitor of Harper's Bazaar.
8:00 p.m.—Concert by Herbert W. Reith and his Moonlight Serenaders. Harold J. Lobdell, piano and cornet; Harold T. Gill, violin; Milton Selleck, banjo and piano; Herbert W. Reith, saxaphone, piano and clarinet; William Mason, drums. Program: "Sensation," "Just a Little Love Song," "Virginia Blues," "Angel Child," "On a Moonlight Night," "Bluin' the Blues," "Stumbling," "St. Louis Blues," "That's How I Believe in You," "Georgia," "Shake It and Break It," "Lonesome Hours," "Stealing," "All That I Need Is You," "Leave Me With a Smile."
9:30 p.m.—Concert by James MacDonald, baritone, Yonkers, N. Y.

WJZ—Westinghouse, Newark, N. J. (360 Meters—Eastern Daylight-Saving Time—Deduct One Hour).

9 a.m.—Agricultural reports and prices as released by New York, New Jersey and federal bureaus; program of music.
10 a.m.—Program of music; Duo Art recital.
Noon—Agricultural reports; weather forecast; program of music; Duo Art recital.
12:15 to 1 p.m.—Standard time signals from Arlington.
1 p.m.—Program of music.
2 p.m.—Program of music.
3 p.m.—Program of music.
4 p.m.—Base ball scores; women's fashion news; program of music.
5 p.m.—Base ball scores; program of music.
6 p.m.—Weather forecast; agricultural reports; program of music.
7:00 p.m.—Vocal and instrumental selections by Lyon and Healy Orchestra; Leland Butterfield, pianist; Harold Saxler, cornetist; Henry Geiss, saxaphonist; Wayne Wadhams, banjoist, and Jack Armstrong, violinist. Olive McCormick Wiswell, soprano, accompanied by Elizabeth Wiswell. David O'Shanasky and Lora Woodworth, violinist.
Program—Sporano solos, "O Fair, O Sweet and Holy" Cantor; "Solvejg's Song," Grieg; "I Would Leave a Song for You," O'Hara; "My Laddie," Thayer. Violin solos, "Song of India," Rimsky-Korsakoff; "Waltz, A Major," Brahms; "The Swan," Saint-Saens; "Orientale," Cui. Orchestra selections, "Pick Me Up and Lay Me Down in Dixie Land,"; "Stumbling," "Angel Child," "Teasing," "Just a Little Love Song," "By the Sapphire Sea." Violin solos, "Juba Danca," Dott; "Caprice Vienois," Kreisler.

WBZ — Westinghouse, Springfield, Mass. (360 Meters—Eastern Daylight-Saving Time—Deduct One Hour).

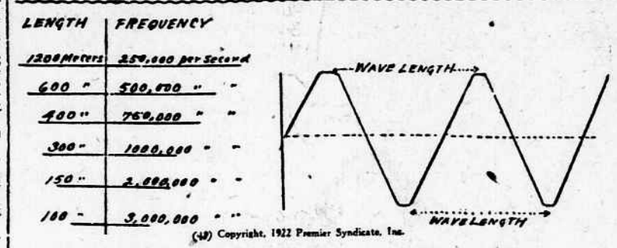
7:30 p.m.—Base ball scores; bedtime stories for children.
7:45 p.m.—Lecture and market reports.
8 p.m.—Program of music; base ball scores.

WGR—Federal Telephone and Telegraph Company, Buffalo, N. Y. (Eastern Daylight-Saving Time—Deduct One Hour).

Noon—Weather and market reports (485 meters).
5:30 p.m.—Weather and market reports (485 meters).
8 p.m.—Base ball scores; bedtime stories for children; digest of day's news (360 meters).
8:15 p.m.—Concert by Federal Telephone and Telegraph Company (360 meters).

EXPERT ADVICE ON RADIO

No. 48.—Wave Lengths and Frequency.



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BY A. HYATT VERRILL,
Expert on Radio Technology.

The matter of wave lengths is nearly always a puzzle to beginners. They may understand that a wireless or radio wave is an oscillation set up in the ether, but they cannot understand how wave lengths are measured. Try to think of waves in terms of frequency rather than terms of length or size. You can then understand why the wave lengths or frequencies have nothing to do with the distance at which they may be received and heard.

You must not confuse wave velocity or speed with wave frequency, for the velocity or speed of a radio wave does not vary, no matter what its frequency or length may be, but remains constant, exactly as a light wave or a heat wave remains constant.

It makes no difference whether a ray of light comes from an arc light, a match or the sun, for, regardless of its origin, it always travels at a definite speed, and it makes no difference whether a heat wave emanates from a great furnace or a tiny spark or the sun, it always travels at the same speed.

Wave Speed Constant.

No matter whether the radio wave is started on its journey by a buzzer or from the great transatlantic sending station, it will always move through the ether at a speed of practically 300,000,000 meters per second. Just as the lengths of heat or light waves vary according to the color of light or the heat of the object producing the waves, so the frequency or length of radio waves varies according to the instruments which produce them.

The frequency of a radio wave is simply the number of times it goes through a complete vibration in one second. The length of the wave and its frequnecy are very closely related. Indeed, we may easily compute the length of a wave if we know its frequency or its length.

The wave length is merely the distance covered by a ware in one complete cycle. The frequency is the number of cycles per second. Hence, as the velocity of the wave is always the same, the wave must travel during one cycle the distance equal to its velocity divided by its frequency.

As the frequency increases, the wave length decreases, so that the long waves from the big sending stations have a lower frequency than the little waves sent out by amateurs. If you stop to consider, you will see that this must be so, just as you know that the long ocean rollers coming in on a beach break less frequently than the tiny ripples during a light wind when the water is nearly calm.

Sensitive Instruments Factor.

But because the low frequency waves are long waves does not mean that they can be heard farther than the high-frequency short waves. Undoubtedly, the high-frequency short waves travel completely around the earth, but as the short high-frequency waves are weak waves, they do not set up vibrations which can be detected in ordinary instruments. On the other hand, the low-frequency long waves are strong waves, and disturb the ether or vibrate the instruments tremendously, exactly as the big combers tear and smash the shore where they strike. But it is not the length or the frequency of the waves which made them inaudible or audible at certain distances; it is the delicacy or sensitiveness of the instruments which receive them. A tube detector is more sensitive than a crystal detector, and hence messages can be received farther from a sending station, regardless of wave length or frequency. By making sufficiently delicate instruments, waves minute in length and of tremendous frequency can be detected, whereas if the instrument is not sensitive, as, for example, a poor piece of crystal or a poor contact, even the longest waves to which the set can tune will pass by without being heard.

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RADIO EXPLAINED

By E. H. Lewis
Instructor New York Y.M.C.A. Radio School

NECESSARY PRECAUTIONS REGARDING FILAMENT CURRENT AND PLATE POTENTIAL.

It has been pointed out that an increased plate current may be had with increasing filament temperature (filament current) and plate voltage. It is not, however, necessary to have maximum possible plate current in many cases. The steady value is that which is referred to. Also, if the filament is heated to too high a temperature it will melt and the tube will be rendered useless. Even though the filament does not melt, the filament current should not be increased any more than is necessary because the filament life will thereby be shortened. For maximum filament life a moderate temperature (moderate current) is best.

If too high plate voltages are used with the "soft" or low vacuum detector tubes a blue glow will be caused, which is due to the ionization of the gas within the tube. This ionization has been explained previously. When it occurs the tube is rendered insensitive as a detector, or, at least, the operation is decidedly poorer. Also, when ionization is caused, the fragmentary gas atoms, the "ions," are repelled by the positively charged plate because the ions are themselves positively charged. Gas atoms are material substances, and so are the ions, which are only atoms, which, in this case, have lost electrons. The ions are, therefore, quite heavy, compared to the electrons, and will do material damage to the filament if they strike it at high velocity. Ionization, therefore, reduces the life of the filament. High plate voltages may be used with very high vacuum tubes, the "hard" tubes, since ionization does not ordinarily occur unless the plate has some gas within itself which can be released by the heat caused when electrons strike it at high velocity. It is not at all advisable to use any higher plate voltages than necessary, even with the hard tubes, since the higher voltages mean increased energy drain from the plate battery. When very excessive plate voltages are used the plate of a tube may heat up considerably and emit electrons itself. The action then becomes very erratic and the results are poorer, even though the plate does not melt. With high enough plate voltages the plate might even melt, but such a result is rarely experienced with a receiving tube unless it is actually premeditated.

New Apparatus and Devices

By Ralph Brown, Radio Engineer

A VARIABLE CONDENSER WITH MICA DIELECTIC.

The construction of the variable condenser illustrated is quite different from the usual intermeshed plate types having an air dielectric. One advantage is the securing of the desired maximum capacity in a condenser of much smaller dimensions.

The condenser illustrated has a maximum capacity of .001 microfarads.

This novel design is very efficient. Two metal plates only are used. One is fixed near the bottom of the condenser case and the other is movable without rotating. The dielectric separating the two plates is a thin disc of high-grade mica. There being no movable plates, the condenser does not require to be balanced and is stable and permanent in adjustment at any setting of the scale. For this reason it is especially well suited to panel mounting. Very low effective resistance in this condenser insures increased selectivity in any receiving set. The scale is practically the 360 degree instead of the usual 180-degree scale. The type shown is for table mounting, but the one designed for panel mounting is practically the same, less the binding posts and equipped with holes for the accommodation of screws or bolts. It is only necessary to drill four holes in the panel. A large knob is provided for ease in securing fine adjustment.

The movable plate mentioned above moves backward and forward, toward and away from the fixed plate. Thus varying the distance between the plates in smooth and extremely gradual steps provides for delicate adjustments. This motion of the movable plate is controlled by the knob. By readjusting the dial a very low capacity can be secured, which is capable of very delicate adjustment. The condenser can then be used as a vernier in connection with a second one set for a higher minimum capacity. This is of considerable value in short wave reception.

CAVE-IN WRECKS HOUSE.

20-Foot Subsidence Over Scranton Mine Causes Collapse.

SCRANTON, Pa., July 8.—Part of the rear of the home of John Mullen, in South Scranton, collapsed early yesterday, when there was a subsidence of about twenty feet in the surface over the National mine of the Glen Alden Coal Company.

The remainder of the house was badly cracked and is uninhabitable. A portion of the rear lot of an adjoining dwelling was slightly affected by the cave-in.

FAITH IN DAUGHERTY.

Only Few "Noes" in Ohio Bar Association Vote.

SANDUSKY, Ohio, July 8.—The Ohio State Bar Association, at its annual convention here, yesterday adopted a resolution "pledging faith" in Attorney General Harry M. Daugherty. The resolution, adopted by a decisive vote, with only a few scattering "noes," said that "certain propaganda has been made in Congress and in the press tending to discount and discredit the service and character of Mr. Daugherty."

The big international labor unions now have seven banks in full operation, with nearly a dozen more in process of organization.